

PATENT

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND
INTERFERENCES**

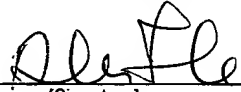


Docket No.: LIPPERT

In re Application of:)
ROLAND LIPPERT et al.) Examiner: R. Siconolfi
Appl. No.: 09/719,759)
Filed: December 14, 2000) Group Art Unit: 3683
For: MULTIPLE-ROW RADIAL BEARING)

BRIEF OF APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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 [Signature]

S I R:

This is an appeal from the final rejection of claims 6, 9, 10 and 12-24 by the Examiner. The Brief is being filed under the provisions of 37 C.F.R. 1.192. A check in the amount of \$320.00 to cover the requisite fee set forth in §1.17(c) is attached.

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OFFICE OF PETITIONS

(1) REAL PARTY IN INTEREST

The above-referenced patent application has been assigned to INA WALZLAGER SCHAEFFLER OHG and ownership of all right title and interest rests with INA WALZLAGER SCHAEFFLER OHG.

(2) RELATED APPEALS AND INTERFERENCES

There are no and there have been no related appeals or interferences.

(3) STATUS OF CLAIMS

The following claims are on appeal:

Claims 16 and 21-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 3,954,313 to Haenel in view of U.S. Pat. No. 4,798,482 to Kruk.

Claims 6, 9-10, 13-15 and 17-19 stand rejected under 35 U.S.C. §103(a). as being unpatentable over Haenel in view of Kruk, and further in view of U.S. Pat. No. 1,970,449 to Gibbons.

Claims 12 and 20 stand rejected under 35 U.S.C. §103(a). as being unpatentable over Haenel, as modified, as applied to claims 1 and 9, and further in view of U.S. Pat. No. 4,336,971 to Reiter.

(4) STATUS OF AMENDMENTS

No amendment under 37 C.F.R §1.116 was filed after issuance of the final rejection.

(5) SUMMARY OF INVENTION

The present invention is directed to a roller bearing, in particular a double-row radial cylindrical bearing, including an outer race (1) and an inner race (2) for guidance of a plurality of rollers (3) therebetween (page 6, paragraph [0022], lines 1-4). The outer race (1) is provided interiorly with a circumferential (or annular) groove for receiving the annular rib (13) of a T-shaped ring (11), which is further provided with a slot (12) to afford the T-shaped ring some flexibility (paragraph [0023] bridging pages 6 and 7). As the T-shaped ring projects out from the outer race, it forms engagement surfaces which are in direct contact with the rollers (page 3, paragraph [0010], lines 3, 4). The provision of such a slotted T-shaped ring with an annular rib received in the inside groove of the outer race (1) not only simplifies the overall manufacturing process of the bearing as the bearing races are continuous and uninterrupted (page 2, paragraph [0006]) and the need for separate retaining elements is eliminated (page 3, paragraph [0008]) but is also able to absorb forces applied by the rollers in an axial direction (page 3, paragraph [0010], lines 4, 5).

(6) ISSUES

Issue 1-Whether claims 16 and 21-24 are patentable under 35 U.S.C. §103(a) over Haenel in view of Kruk?

Issue 2-Whether claims 6, 9-10, 13-15 and 17-19 are patentable under 35 U.S.C. §103(a) over Haenel in view of Kruk and further in view of Gibbons?

Issue 3-Whether claims 12 and 20 are patentable under 35 U.S.C. §103(a) over Haenel, as modified, as applied to claims 1 and 9, and further in view of Reiter?

(7) GROUPING OF CLAIMS

For each ground of rejection which appellant contests herein which applies to more than one claim, such additional claims, to the extent separately identified and argued below, do not stand or fall together.

As to the rejection applied against Claims 16, 21-24 under 35 U.S.C. §103(a), it is appellant's intention that Claims 21-24 stand or fall together with claim 16.

As to the rejection applied against Claims 6, 9-10, 13-15 and 17-19 under 35 U.S.C. §103(a), it is appellant's intention that Claims 6, 10, 13-15 stand or fall together with claim 9, and claims 17, 19 stand or fall together with claim 16.

Claim 18 is considered allowable on its own merits and does not stand or fall together with claim 9.

As to the rejection applied against Claims 12 and 20 under 35 U.S.C. §103(a), it is appellant's intention that Claims 12 stands or falls together with claim 9, and claims 20 stands or falls together with claim 16.

(8) ARGUMENT

Issue 1-Whether claims 16 and 21-24 are patentable under 35 U.S.C. §103(a) over Haenel in view of Kruk?

Haenel is directed to an anti-friction roll bearing which includes a flanged retaining rim (9) positioned between the rolling bodies (5, 6) and secured to the outer race (8) by rivets (12) inserted through holes in the retaining rim (9) and deformed in conventional manner. While correctly noting that "*Haenel does not disclose a t shaped collar*", the Examiner completely ignores the provision of an annular groove formed interiorly of the outer race for receiving the annular rib of the T-shaped ring. Thus, Haenel not only fails to disclose a T-shaped ring, but also fails to disclose the type of securement of such a ring to the outer race. As set forth in claim 16, the T-shaped ring is held in place through engagement of the annular rib in the annular groove of the outer race. Haenel describes the use of rivets. This type of connection is complex and time consuming and as a consequence of the provision of holes also detrimental to the strength of the component.

In order to make a case for obviousness, the Examiner combined the Haenel reference with Kruk. Kruk describes a roller bearing which includes an annular spacer (7), positioned in a through-opening between separate outer rings (1, 2) that form the outer race, in order to maintain the outer rings at operating distance. While Fig. 2 of Kruk shows a spacer of T-shaped configuration, it is appellant's contention that a person skilled in the art would not make the combination, as suggested by the Examiner. The subject matter of the Haenel reference is clearly and unmistakably directed to a roll bearing that purports to facilitate assembly thereof by perforating the rim in order to allow application of rivets for establishing the connection between the rim and the outer race. As stated above, the purpose of the spacer of Kruk is to fix the outer rings in precise operating position with respect to one another. Unlike the present invention, in which the annular (radial) rib of the T-shaped ring is received interiorly in an annular groove of the outer race for securement, the spacer of Kruk is secured via the axially directed legs (11) which abut against the outer race. No annular groove on the inside of the outer race is disclosed in Kruk. In addition, unlike the present invention, in which, as set forth in claim 16, the T-shaped ring has engagement surfaces in contact with the rollers, the Kruk spacer (7) does not contact at all the rollers.

It is well established that there must be some motivation to combine the references to create the case of obviousness, and a showing that a skilled artisan, confronted with the problems as the inventor, would select the elements from the cited prior art references. Haenel does not motivate the artisan to make

the suggested combination. This is true, especially because of Haenel's clearly stated benefit of the riveted securement, as described.

It is also believed that the Examiner misinterpreted the Haenel reference, and fell in this case into the hindsight trap "wherein that which only the inventor taught is used against its teacher". While the Examiner recognized the use of the rivets, he ignored Haenel's expressly desired intention to use the riveted securement and makes the following statement: *"Haenel uses blind rivets in circumferentially placed locations. This requires for the holes [sic] the ring and the outer race to be lined up. With a t shaped ring as taught by Kruk, there is no need to line up holes."* Nothing in Haenel suggests in any way the undesirability of riveting and to make the modification, as advanced by the Examiner. That the Examiner used the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention is also evidenced by the Examiner's statement in paragraph 6 on page 4 of the Final Rejection, when he states that *"[I]f Haenel disclosed that, instead of a multi piece ring, a one piece t shaped ring could be used, then Haenel would be a 102(b) reference"*. By virtue of this approach, very few patents would ever issue when it were sufficient simply by identifying a claimed element in the prior art.

However, even when assuming arguendo that Haenel and Kruk may be combined as suggested by the Examiner, the resulting structure, at best, would produce a roller bearing having a T-shaped spacer which extends between separate outer rings of the outer race, and thus would not result in the presently claimed invention. The Examiner over-concerns in the Final rejection with the

presence of a T-shaped element in the prior art but clearly ignores the provision of an annular groove interiorly of the outer race. This is further evidenced by the Examiner's statement in paragraph 6 on page 6 of the Final rejection, when he notes that "[I]f Kruk were to contact the rollers, then the reference would be the basis for a 102(b) rejection."

In other words, the combination of Haenel and Kruk would not result in a roller bearing wherein the T-shaped ring is formed with an annular rib for accommodation in an annular groove formed on the inside of the outer race.

For the reasons set forth above, it is applicant's contention that neither Haenel nor Kruk, nor a combination thereof teaches or suggests the features of the present invention, as recited in claim 16.

Claims 21 to 24 depend from claim 16 and therefore contain all the limitations thereof. Therefore, these claims patentably distinguish over the applied prior art in the same manner as claim 16..

It is therefore respectfully submitted that the rejection of claim 16 and 21-24 under 35 U.S.C. 103(a) should be reversed.

Issue 2-Whether claims 6, 9-10, 13-15 and 17-19 are patentable under 35 U.S.C. §103(a) over Haenel in view of Kruk and further in view of Gibbons?

The Examiner rejected independent claim 9 under 35 U.S.C. §103(a) as being unpatentable over Haenel in view of Kruk and further in view of Gibbons et

al. The Haenel and Kruk references have been discussed above, and the same arguments submitted are essentially applicable here as well. Apart from the fact that neither Haenel nor Kruk teaches or suggest a T-shaped ring having a rib received in a circumferential groove formed interiorly of the outer race, neither the retaining ring (9) of Haenel nor the spacer (7) of Kruk teaches or suggests the provision of a slot, as the Examiner readily conceded. The Examiner applied, however, the reference to Gibbons which describes a single-row roller bearing including a split end ring (24) to transmit thrust forces to the outer race. Applicants fail to see the motivation of combining the references, as suggested. Haenel teaches the provision of a plurality of rivets to connect the retaining rim to the outer race and thus requires the provision of a plurality of holes. The provision of a slot in such a retaining rim could not have been contemplated since the riveted connection fixes the retaining ring in place, and a contraction of the retaining rim is thus neither desired nor intended because it would result in a misalignment of the holes in the retaining ring and the outer race.

The Examiner's reasoning for rejection is clearly based upon hindsight to arrive at the determination of obviousness. It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. In re Gorman, 933 F.2d 982. There is no teaching or suggestion supporting the combination as proposed by the Examiner. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Gordon,

733 F.2d at 902.

For the reasons set forth above, it is appellant's contention that neither Haenel nor Kruk, nor Gibbons et al., nor a combination thereof teaches or suggests the features of the present invention, as recited in claim 9.

Claims 6, 10, 13-15 and 18 depend from claim 9 and therefore contain all the limitations thereof. As such claims 6, 10, 13-15 patentably distinguish over the applied prior art in the same manner as claim 9.

Claims 17 and 19 depend from claim 16 and therefore contain all the limitations thereof. As such claims 17-19 patentably distinguish over the applied prior art in the same manner as claim 9.

Claim 18 is further considered allowable on its own merits as it recites subject matter neither taught nor suggested by the applied references. Claim 18 sets forth a radial expansion of the axial ends (14) of the T-shaped ring. The expansion in radial direction of the axial ends ensures that the engagement area for the end faces of the rollers is as great as possible (page 4, lines 1 to 3 of the instant specification and Fig. 3). It is noted that the Final Rejection is completely silent in this regard.

It is therefore respectfully submitted that the rejection of the claims 6, 9-10, 13-15 and 17-19 under 35 U.S.C. 103(a), should be reversed.

Issue 3-Whether claims 12 and 20 are patentable under 35 U.S.C. §103(a) over Haenel, as modified, as applied to claims 1 and 9, and further in view of Reiter?

Claims 12 and 20, dependent from claim 9 and 16, respectively, are considered allowable by virtue of their dependencies.

It is therefore respectfully submitted that the rejection of the claims 12 and 20 under 35 U.S.C. 103(a), should be reversed.

(9) CONCLUSION

Appellant has invented a novel and inventive roller bearing which is easy to make and eliminates the need for separate retaining elements and which is also able to absorb forces applied by the rollers in an axial direction.

The applied prior art does neither teach nor suggest the essential features as defined in independent claims 9 and 16 of the present invention but merely shows some elements of the present invention but not the novel and inventive combination. The question of obviousness is, however, not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed. (In re Sernaker, 702 F.2d 989, 217 U.S.P.Q 1, C.A.F.C. 1983).

When considering the arguments set forth by the Examiner in the final rejection, appellant believes that the Examiner relied on hindsight in reaching his

obviousness determination. As the C.A.F.C stated in W.L. Gore, 721 F.2d at 1553, 220 U.S.P.Q. at 312-313) "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher". Thus, the use of hindsight reconstruction to pick and choose among isolated disclosures in the prior art to reject a claimed invention is ill-advised.

Therefore, the rejection of claims 9 and 16 on this prior art is not well taken.

For the above stated reasons, it is respectfully submitted that the rejection of the claims 6, 9, 10 and 12-24 issued by the examiner on the references should be reversed.

Respectfully submitted,

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(10) APPENDIX

6. (Amended) The bearing of claim 9, wherein the inner race is provided with a circumferential lubricating groove and with one or more radial lubricating bores.
9. (Amended) A double-row radial cylindrical roller bearing, comprising:
 - a single-piece inner race provided with a central collar and two outer collars;
 - an outer race having interiorly a circumferential groove and provided with a central collar in the form of a single-piece T-shaped ring including a slot to provide the ring with variable diameter, said ring having a circumferential outer rib, which is engageable in the circumferential groove, and two opposite axial ends; and
 - rolling elements rolling between the inner and outer races.
10. The bearing of claim 9 defining a bearing axis, said slot extending parallel to the bearing axis.
12. The bearing of claim 9, wherein the outer collars of the inner race are provided with a sealing element.
13. The bearing of claim 9, wherein the ring is subjected to a hardening process.

14. The bearing of claim 9, wherein the ring is coated with a friction-reducing material.
15. The bearing of claim 9, wherein the friction-reducing material is polytetrafluoroethylene (PTFE).
16. A roller bearing, comprising:
 - an inner race;
 - an outer race in surrounding relationship to the inner race, said outer race having interiorly an annular groove;
 - rolling elements rolling between the inner and outer races; and
 - a T-shaped ring formed with an annular rib for securement in the annular groove of the outer race and projecting out from the outer race so as to form engagement surfaces for neighboring rolling elements and thereby being capable to absorb forces applied by the rolling elements in an axial direction.
17. The bearing of claim 16, wherein the ring is breached by a slot to impart resiliency to the ring.
18. The bearing of claim 9, wherein the axial ends of the ring expand in a radial extension and rest against a running surface of the outer race.

- 19. The bearing of claim 17 defining a bearing axis, said slot extending parallel to the bearing axis.
- 20. The bearing of claim 16, wherein the inner race has two outer collars provided with a sealing element.
- 21. The bearing of claim 16, wherein the inner race is provided with a circumferential lubricating groove and with one or more radial lubricating bores.
- 22. The bearing of claim 16, wherein the T-shaped ring is subjected to a hardening process.
- 23. The bearing of claim 16, wherein the T-shaped ring is coated with a friction-reducing material.
- 24. The bearing of claim 23, wherein the friction-reducing material is polytetrafluoroethylene (PTFE).